

REMARKS/ARGUMENTS

The Office Action mailed June 17, 2002 has been reviewed and carefully considered. Claims 33-36 have been amended. Claims 1-36 are pending in this application, with claims 1, 28, and 33 being the only independent claims. Reconsideration of the above-identified application, as herein amended and in view of the following remarks, is respectfully requested.

In the Office Action mailed September 10, 2004, the Examiner states that an abstract on a separate sheet is required under 37 CFR 1.72(b). Applicants note that the present application is a U.S. national stage application of international stage PCT application No. PCT/EP00/09105, a published pamphlet version of which was included in the filing papers of this national stage application as WO 01/20806. The abstract appeared on the cover sheet of the published pamphlet version of the PCT application. As stated at §1893.03(e) of the MPEP (emphasis added):

When the international application is published as the pamphlet, the abstract is reproduced on the cover page of the publication, even though it appears on a separate sheet of the international application in accordance with PCT Rule 11.4(a). Thus the requirement of 37 C.F.R. §1.52(b) that the abstract "commence on a separate sheet" does not apply to the copy of the application (pamphlet) communicated to the designated Offices by the International Bureau under PCT Article 20. Accordingly, it is improper for the examiner of the U.S. national stage application to require the applicant to provide an abstract commencing on a separate sheet if the abstract does not appear on a separate sheet in the pamphlet. Unless the abstract is properly amended under the U.S. rules during national stage processing, the abstract that appears on the cover page of the pamphlet will be the abstract published by the USPTO under 35 U.S.C. §122(b) and in any U.S. patent issuing from the application.

Therefore, in the present national stage application, the filing of the original Abstract on a separate sheet is not necessary. Withdrawal of the objection is respectfully requested.

Claims 1-12, 15-18, 20, and 23-36 stand rejected under 35 U.S.C. §102(b) as anticipated by U.S. Patent No. 5,590,409 (Sawahashi).

Claims 13-14 and 21-22 stand rejected under 35 U.S.C. §103 as unpatentable over Sawahashi in view of U.S. Patent No. 6,430,398 (Blanc).

Claim 19 stands rejected under 35 U.S.C. §103 as unpatentable over Sawahashi in view of U.S. Patent No. 5,333,175 (Ariyavisitakul).

The claims are amended to correct the numbering of some of the claims. The original application listed two claims with the number 32. Accordingly, the second claim 32 and subsequent claims 33-35 have been renumbered 33-36.

Before discussing the cited prior art and the Examiner's rejections of the claims in view of that art, a brief summary of the present invention is appropriate. The present invention relates to transmission power control in a radio communication system. As is known, transmission power levels between base stations (BSs) and mobile stations (MSs) are continuously adjusted during an ongoing connection between the BS and MS to provide a sufficient quality for transmission and to reduce power consumption and interference (see page 1, lines 12-23 of the specification). Too high a transmission power from an MS may cause too high an interference to the radio traffic in a cell and have a detrimental effect on the performance of the base station (page 2, lines 6-12). An outer loop power control command generated by a radio network controller (RNC) of a WCDMA system sets the connection quality target of a connection between an MS and a BS (page 2, lines 27-32). The closed loop power control command is adjusted at the BS in accordance with a connection quality target received from the controller (page 3, lines 2-5). If the appropriate connection quality target can not be met because of some predefined condition, a limit is placed on the target value and the use of a connection quality target which exceeds the limit is prevented (page 5, lines 20-23; and page 13, lines 13-17).

Each of the independent claims 1, 28, and 33 recites preventing use of a target transmission parameter that exceeds a limit value upon the occurrence of a predefined condition. That is, when a predefined condition occurs a limit value is set for the target transmission parameter

which is used to control power level and a target transmission parameter which exceeds the limit value is prevented from being used. Support for this limitation is found, e.g., on page 13, lines 13-22 of the present specification.

Sawahashi discloses a transmission power control method and transmission power control apparatus. Sawahashi addresses the problem which occurs when a mobile station suddenly moves out of a shadow of a building to a line of sight area and the base station's received power of the signal transmitted from the mobile station suddenly increases and provides a large interference to signals transmitted from other mobile stations (col. 5, lines 19-27). According to Sawahashi, a mobile station 100 calculates average received power in a present transmission power control period and compares to average received power from a previous period (col. 6, lines 17-23). If the difference between the two is lower than a predetermined reference power difference, the mobile station calculates transmission power in accordance with a transmission power control bit extracted from the forward frame, Step S4 (col. 6, lines 24-28). If the difference between the two is greater than the predetermined reference power difference, the mobile station calculates the transmission power in accordance with the power difference between the present and previous time periods, step S5 (col. 6, lines 35-40). Sawahashi discloses switching between using a closed control loop when the difference is less than the reference power difference, step S4, and an open control loop when the difference is greater than the reference power difference, step S5 (col. 6, lines 64-67 and col. 7, lines 31-41). Neither the closed control loop nor the open control loop disclosed by Sawahashi sets a limit on the value of a target for the transmission parameter which is used to control the power level of transmission. Therefore, Sawahashi fails to disclose preventing the use of a target for the transmission parameter which exceeds a limit value, as recited in independent claims 1, 28, and 33.

The Examiner states that the step of preventing use of a target for the transmission parameter exceeding a limit value is disclosed at col. 5, line 61 to col. 6, line 7 of Sawahashi. This section of Sawahashi merely discloses that the signal-to-noise ratio SIR is the parameter used to determine the power level, as is disclosed in the prior art section in the present specification. The present invention sets a limit on the value of the SIR (or some other parameter used for control) when a predefined condition occurs. In contrast, Sawahashi discloses a method for switching from a closed control loop to an open control loop for quickly changing the power level when the mobile station moves from behind a building to a line of sight of a base station. However, Sawahashi does not set a limit on the target value in either the closed or the open control loop. Accordingly, Sawahashi fails to disclose preventing use of a target transmission parameter that exceeds a limit value, upon the occurrence of a predefined condition, as recited in independent claims 1, 28, and 33.

In view of the above remarks, independent claims 1, 28 and 33 are not anticipated by Sawahashi under 35 U.S.C. §102.

Furthermore, since Sawahashi relates to switching between a closed loop and an open loop power control, Sawahashi also fails to teach or suggest a limit for a target value used for controlling the power level and preventing use of a target transmission parameter that exceeds a limit value, upon the occurrence of a predefined condition. Accordingly, independent claims 1, 28, and 33 are also allowable over Sawahashi under 35 U.S.C. §103.


Dependent claims 2-27, 29-32, and 34-36, each being dependent on one of independent claims 1, 28, and 33, are deemed allowable for at least the same reasons expressed above with respect to independent claims 1, 28, and 33.

Dependent claim 4 recites "wherein the limit value equals with the target for the transmission parameter in use at the moment of detecting the predefined condition". The Examiner states that this is disclosed at col. 1, lines 18-44; and col. 7, line 64 to col. 8, line 13. These sections Sawahashi referenced by the Examiner merely disclose the use of SIR to control the power level. In addition to using the SIR, or some other parameter, to control the power level, the present invention further recites putting a limit on the value of the control parameter, i.e., SIR, when a predefined condition is met. Dependent claim 4 states that the limit of the control parameter is set to the value of that control parameter at the time that the predefined condition is met. It is respectfully submitted that Sawahashi fails to disclose this limitation because as described above Sawahashi fails to disclose teach or suggest putting any limit on the value that the control parameter may assume. Dependent claim 4 should be allowable for at least these additional reasons.

The application is now deemed to be in condition for allowance and notice to that effect is solicited.

It is believed that no fees or charges are required at this time in connection with the present application. However, if any fees or charges are required at this time, they may be charged to our Patent and Trademark Office Deposit Account No. 03-2412.

Respectfully submitted,
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